

Inclusive Technologies

334 Main St. Suite 141
Matawan NJ USA 07747
908.441.0831 v/tty
908.441.0832 fax

RECEIVED
OCT 28 1996

FCC MAIL ROOM

October 24, 1996

Office of the Secretary
Federal Communications Commission
1919 M Street, N.W.
Washington, DC 20554

To Whom It May Concern:

DOCKET FILE COPY ORIGINAL

Thank you for the opportunity to provide comments on this issue, WT Docket No. 96-198, "Access to Telecommunications Services, Telecommunications Equipment, and Customer Premises Equipment By Persons with Disabilities". I am grateful that the Commission will be posting on its Website those comments received in electronic form; our have been forwarded to the address indicated. I look forward to the day when all of the Commission's business can be conducted electronically.

Improving the accessibility of current and emerging telecommunications products and services is an important step in assuring that all citizens will be able to participate in the rapidly-growing information industry. This participation will vitally improve the integration of people with disabilities, who have been shut out of too many opportunities for too long.

As a member of the Access Board's Telecommunications Access Advisory Committee, I look forward to working with the Commission to guarantee full participation in telecommunications services by citizens with disabilities.

Yours truly,



Jim Tobias
President

No. of Copies rec'd
List ABCDE

044

October 24, 1996

Comments on WT Docket No. 96-198, "Access to Telecommunications Services, Telecommunications Equipment, and Customer Premises Equipment By Persons with Disabilities"

RECEIVED
OCT 28 1996
FCC MAIL ROOM

Comments on WT Docket No. 96-198

MODERN TELECOMMUNICATIONS EFFECTIVELY CONSIST OF FEATURES AND FUNCTIONALITIES PROVIDED INSEPARABLY BY DIFFERENT COMBINATIONS OF NETWORK EQUIPMENT, NETWORK SERVICES, AND CUSTOMER PREMISES EQUIPMENT. ACCESSIBILITY REQUIREMENTS MUST REFLECT THIS INTERDEPENDENCE AND PROVIDE FOR SUFFICIENT CONSUMER CHOICE.

One cannot complete a telephone call without a telephone at one end, a network (made up of network hardware and service software) in the middle, and a telephone at the other end. The telephone may be a wireline one, connected by copper to a central office, or a wireless one, connected by radio via one or more station ports, but the service operates, from the end-user's perspective, easily and seamlessly. This "transparency of complexity" should not mislead us: the absence or malfunction of any one of the elements is fatal to the call. Similarly, accessible telecommunications requires that all end-to-end elements operate properly. Without this understanding it will be impossible to guarantee accessible telecommunications. Each participant in the telecommunications industry value chain must understand the needs of consumers, and their responsibilities to guarantee that their link upholds the accessibility enabled by the others. This is not currently the case. The Commission should proceed by analyzing telecommunications by function or application, not by how that function is achieved. It will always be achieved only by a combination of CPE, network equipment, and service providers.

In addition, the principle of consumer choice must be extended to customers with disabilities. In too many situations, disabled telecommunications customers have fewer options than non-disabled customers. For example, there are only a handful of TTYs commercially available, compared with thousands of voice telephones. Too often the features needed by a disabled user are only available on "deluxe models" of devices, or in devices rather than in networks. The Commission should consider how to expand the range of consumer choices rather than seek to implement the "one best" solution to access needs. This market depth will provide better results for consumers with disabilities, as it allows them to select the best combination of equipment and services for themselves.

ANY DEVICE PERFORMING A TELECOMMUNICATIONS FUNCTION SHOULD BE CONSIDERED TELECOMMUNICATIONS CUSTOMER PREMISES EQUIPMENT (CPE), BUT SHOULD BE CONSIDERED SUCH FOR THAT FUNCTION ALONE.

As the definition of "telecommunications services" expands to include more and more services, simultaneously there is an expansion of categories of equipment capable of accessing telecommunications services. At the same time, each device is capable of performing additional functions, many of which are not related to telecommunications. Telephones have clock functions, computers that can place telephone calls can also play music CDs. It may be difficult to determine the extent to which a device is telecommunications CPE, if mathematical accuracy is the goal. Instead, the

Comments on WT Docket No. 96-198, "Access to Telecommunications Services, Telecommunications Equipment, and Customer Premises Equipment By Persons with Disabilities"

Commission should use a common-sense approach to determine whether a particular piece of equipment should be covered by Section 255.

If the device performs a telecommunications function otherwise performed by equipment already determined to be CPE, that particular function of that device should be covered. For example, a computer that allows users to originate and receive voice telephone calls performs the same function as a standard telephone. Thus the computer would be covered and should be subject to the same regulations as standard telephones. This is especially the case if the computer is advertised for sale as having this telecommunications capability.

However, the expectation of accessibility should be limited to the particular telecommunications function performed by the equipment. For example, the computer that can act as a telephone may also have a clock function. The computer manufacturer should not be under an obligation to make the clock function accessible (such as through speech synthesis).

CUSTOMER PREMISES EQUIPMENT AND TELECOMMUNICATIONS SERVICE PROVIDERS BOTH SERVE THE PUBLIC DIRECTLY, WHILE NETWORK EQUIPMENT MANUFACTURERS DO NOT. ACCESSIBILITY REQUIREMENTS SHOULD REFLECT THIS DIFFERENCE AND THE INTERACTION AMONG THE THREE AFFECTED INDUSTRY SEGMENTS.

Manufacturers of CPE are similar to telecommunications service providers in that both serve the public directly. They should therefore be required to provide products and services that address the access needs of customers with disabilities. For example, manufacturers of answering machines should be required to guarantee that these machines work for TTY users as well as they work for voice users. Service providers offering voice mail should be required to guarantee that these systems operate for TTY users as well as they work for voice users.

However, service providers rely on network equipment manufacturers to provide them with equipment that will enable them to provide services. Telecommunications services are inseparable from the network equipment that enables them. It is impossible to provide, for example, voice mail, without a voice mail platform installed in the telephone network. If service providers are under an obligation not to install network equipment that compromises accessibility standards, then network equipment manufacturers must be under a corresponding obligation not to manufacture equipment that compromises accessibility standards. A service provider that cannot address an access issue by its own actions, who has made a good faith effort to identify network equipment that will allow it to address the access issue, but who has found none, should be able to argue that in this case the access solution is not readily achievable. (This finding, however, should not absolve the service provider of its continuing obligation to seek out solutions.)

Most importantly, these two industry segments must be obligated to cooperate in order to remove access barriers.

Comments on WT Docket No. 96-198, "Access to Telecommunications Services, Telecommunications Equipment, and Customer Premises Equipment By Persons with Disabilities"

Network equipment manufacturers are one step removed from the public: their customer is the service provider, not the end user. This tends to insulate them from access issues. In order to alleviate this effect and to guarantee cooperative efforts between the two segments, the Commission should take steps to guarantee the following:

1. That service providers collect and collate concerns regarding accessibility and communicate them to their network equipment manufacturers as appropriate, and that these network equipment manufacturers receive, review, and address the accessibility concerns that they received from their service provider customers. This might be achieved by requiring service providers to send the Commission a copy of any documents sent to equipment manufacturers regarding accessibility concerns, and requiring the equipment manufacturers to notify the Commission of their receipt of those documents and an indication of their plan to address the issues raised in them.
2. That service providers meaningfully include accessibility requirements in all relevant requests for proposals or requests for quotes for their network equipment. The Commission should support all cooperative efforts to generate and disseminate such language.
3. That service providers and network equipment manufacturers participate in all relevant industry coordination activities for the purpose of reviewing and resolving accessibility issues. The Commission should support (and initiate where necessary) such efforts, as mentioned in Section 256(b)(2)(B).

DEFINITION OF THE "READILY ACHIEVABLE" STANDARD MUST ADDRESS THE COMPLICATED FACTORS INVOLVED IN DEVELOPING, MARKETING, AND SUPPORTING TELECOMMUNICATIONS PRODUCTS AND SERVICES.

There is a significant difference between architectural access and product or service access. In the former,

Three types of factors should be used in determining whether a given accessibility feature (whether in CPE, network equipment, or service) is readily achievable:

Research and development costs

Production costs

Marketing and business practices costs.

First, research and development costs may be higher if significant work is required to address access issues. Second, there may be changes to production costs, including licensing or intellectual property fees, additional component costs, additional manufacturing costs, and changes in cost per unit directly attributable to reduced or expanded volume of manufacture. Third, changes to marketing costs should be reflected, as the accessibility feature is expected to have a positive or negative impact on anticipated sales or product life cycle.

Comments on WT Docket No. 96-198, "Access to Telecommunications Services, Telecommunications Equipment, and Customer Premises Equipment By Persons with Disabilities"

For these three types of factors, the following costs should be allowed to be considered:

Staff time

Cost of identification of any needed external resources

Cost of those external resources for this function

Any undue complications to corporate practices (including market research and testing)

Any undue delays in product introduction.

Factors which should not be included are the costs of the accessibility review itself, any typical product support costs, any public notification costs, any targeted advertising costs, or any costs not directly attributable to a product, such as staff training on accessibility or participation in an accessibility standards body.

COMPANIES SHOULD HAVE A "CONTINUING OBLIGATION" TO IMPROVE THE ACCESSIBILITY OF THEIR PRODUCTS AND SERVICES. THIS OBLIGATION SHOULD APPLY TO THE PLANNED PERIODIC REVIEW OF PRODUCTS AND SERVICES BY MANUFACTURERS AND SERVICE PROVIDERS

Telecommunications products and services typically have two stages in their lives: new product/service development and ongoing product management. Access is clearly more efficiently provided by including accessibility requirements in the first stage. At this stage the entire feature set is undetermined, as are the user interface features. It is relatively easy to include accessibility features at this point, before hardware and software specifications harden.

However, access can be added during the second stage as well, especially when new access technologies become available and can be introduced in ways that do not deform the product or service. The Commission should require companies to include accessibility considerations throughout the life of a product or service.

Telecommunications products and services undergo frequent review for both technical and marketing purposes. These reviews often result in design changes and operational adjustments. In some cases they result in the decision to discontinue the product and/or to begin a new product development effort.

Subsequent to an initial assessment of a product's accessibility, the company should be under an obligation to re-assess the achievability of an accessibility feature when it is in the course of reviewing the existing product for significant changes, such as an upgrade or re-design. This should meet the "continuing obligation" as long as the company's reviews are not formulaic or boilerplate.

ACCESSIBILITY REQUIREMENTS MUST INCLUDE BUSINESS PRACTICES

Most of the effort in the field of accessible telecommunications has focused on the technical problems of improving product design and performance. It is often the case that the principal barrier to access is

Comments on WT Docket No. 96-198, "Access to Telecommunications Services, Telecommunications Equipment, and Customer Premises Equipment By Persons with Disabilities"

not the product itself, but the business practices that support the product. For example, a blind telephone subscriber is able to use the telephone, but cannot use the printed directory or the printed bill. This is a significant obstacle to the "usability" of telephone service. Market research, advertising, and customer service all play important roles in developing and providing communications products and services; all have disability implications.

In this area the Commission should pay particular attention to the recommendations of the Access Board's Process Guidelines. These guidelines are unique in that they do not assume that engineering resources are sufficient to guarantee accessible products and services. The Process Guidelines seek to permeate companies thoroughly and assign accessibility responsibilities to different organizations. For example:

Market research should be performed so that the needs of customers with disabilities are taken into account, either specifically or as part of the company's general market research activities.

Advertising and product documentation should be available in accessible formats as appropriate, such as large print and captioned video.

Customer support should be available to all customers, such as including TTY customer support lines.

These are only examples and broad suggestions. In fact, each product may need to address specific business practices. In the example given of pay telephones, manufacturers should be required to provide as part of their installation information, those installation details that would provide for improved access, such as the height of installation and the reason for that height. These activities cannot not be effectively performed with blanket statements, but will require rigorous analysis.

Finally, one business practice that may improve access without any changes to a product is its pricing. In a situation where an access feature exists only in a "deluxe" model of a device, or in a combination of two telecommunications services, the company should be free to offer a discount or package to customers instead of having to modify the device or service technically.

THE COMPLIANCE PROCESS SHOULD BE GUIDED BY ACTUAL ACCESS NEEDS AND SHOULD SEEK TO FOCUS AVAILABLE RESOURCES IN A COST-EFFECTIVE MANNER

The goal of this section of the Act is to guarantee access by customers with disabilities to telecommunications products and services. It may be that the Commission can only do this by requiring every manufacturer and service provider to address every accessibility need for every one of its products. This approach would clearly lead to fully accessible telecommunications, but it would do so by imposing a significant burden on industry: 10,000 or more products would need to be reviewed per year and potentially hundreds of different access issues would need to be considered for each one. This is one extreme of the compliance continuum.

Comments on WT Docket No. 96-198, "Access to Telecommunications Services, Telecommunications Equipment, and Customer Premises Equipment By Persons with Disabilities"

At the other extreme, companies would address the access issues voluntarily and independently. This approach would lighten the burden on industry, but it would not guarantee any more than a random amount of accessibility. It could happen that all manufacturers address the same access need, perhaps because it is simple to do or inexpensive, and ignore the more difficult or costly problems.

Between these two extremes might lie an approach that would maximize the cost-effectiveness of industry access activities. It would begin by establishing the status of telecommunications accessibility on a periodic basis with a Market Monitor (recently proposed as part of the Access Board Compliance Guidelines). The Market Monitor would ascertain, for as large a set of telecommunications functions as possible, the ready availability of accessible telecommunications. The Monitor might be able to report that certain functions were effectively accessible if those functions could be performed by all or almost all customers with disabilities, with little or no additional cost or increase in difficulty, and that sufficient consumer choices existed. Guidance to industry would then emphasize that no decrease in accessibility was permitted, but that no new measures would be necessary.

For functions that were not yet effectively accessible, such an approach would have to take into account several factors for each one of the access needs it sought to examine:

1. The size of the population to be served
2. The centrality of the telecommunications function needing access improvement
3. The lack of any reasonable functional alternatives
4. The estimated costs and timetable of an access solution
5. The nature of the industry segment or segments responsible for the improvement

This approach would have to analyze and prioritize the needs, admittedly a difficult and highly political process. Consumer input should be pre-eminent in determining these priorities. Following this, the appropriate industry segment(s) would have to be motivated to act. Guidance to industry might consist of several types of measures, including penalties and incentives, negotiated settlements, support for industry research consortia, and support for government-funded activities in search of a solution or for more active dissemination of an existing solution.

This approach would have two advantages over a complaint-driven, product-by-product review. First, it would optimize the cost-effectiveness of progress towards access by focusing efforts and resources on the most pressing problems. Second, it would accelerate access by allowing a certain amount of "advance warning". Emerging telecommunications functions and technical changes to existing functions may both act to limit access. As soon as these show up in the Market Monitor, guidance could be given to industry to concentrate on improving or maintaining access.

Comments on WT Docket No. 96-198, "Access to Telecommunications Services, Telecommunications Equipment, and Customer Premises Equipment By Persons with Disabilities"

REGARDING COMPATIBILITY WITH ASSISTIVE TECHNOLOGY, NO UNDERSTANDING EXISTS OF WHAT IS "COMMONLY USED" SPECIALIZED CPE

To our knowledge, no thorough census of existing specialized CPE has ever been performed. The Commission should support or initiate such a census, the purpose of which would be to determine the approximate numbers of the various types and models of SCPE. This census could be performed by a number of agencies, public and private, concerned with accessible telecommunications and able to reach large numbers of consumers with disabilities.

The Commission should then identify which types and models of SCPE it deems to be "commonly used." The purpose of this identification would be to allow the Commission to then inform CPE manufacturers and service providers which types and models of equipment need to be considered with respect to compatibility.

At the same time, the Commission should initiate or support coordination activities between the manufacturers of specialized CPE and manufacturers of CPE and service providers. The purpose of these activities would be to further develop standards so that compatibility with specialized CPE is based on standards rather than on testing with each individual device.